

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 25, 2020

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending December 25, 2020

Transuranic Waste Management: Last Thursday, Triad management declared potential inadequacies of the safety analysis (PISA) at the Plutonium Facility, the Chemistry and Metallurgy Research building, and the Transuranic Waste Facility. The PISAs were based on a review of information contained in DNFSB/TECH-46, *Potential Energetic Chemical Reaction Events Involving Transuranic Waste at LANL*, issued on September 24, 2020. Specifically, the PISAs identify that the hazard presented by the potential for nitrated anion exchange resins in transuranic waste drums is not analyzed in the safety bases for these facilities. Triad's analysis notes that current resin operations use small quantities (larger scale anion exchange processes remain authorized in the Plutonium Facility, though are not currently operating) and procedural controls are in place to ensure rinsing. TECH-46 cited the resins as one example of a potential chemical incompatibility. Triad's analysis focused exclusively on this example, but they commit to perform an extent of condition for the existing and proposed waste streams to identify other potential chemical incompatibilities. This contrasts with N3B's approach to its PISA for Area G that assumes the potential for incompatible chemicals exists and must be further evaluated (see 12/11/2020 report).

Area G–Safety Basis: On Monday, N3B declared four PISAs. These all stemmed from the recent extent of condition review of design basis accidents involving fire hazards at Area G (see 12/4/2020 report). The PISAs are: (1) the vehicle accident with fuel pool fire may not be representative and bounding of all accident sequences, (2) the fuel pool fire from a container leak accident may not be representative and may not have appropriate controls and risk reduction, (3) the refueling vehicle accident with pool fire has an incomplete analysis that is not bounding and representative, and (4) the vehicle accident with combustible fire may have inappropriate controls applied to its unique sequence of events. N3B personnel are still evaluating issues from the extent of condition to determine if additional PISAs will be recommended. Presently, Area G operations are curtailed and the facility is in a safe condition as compensatory measures for planned activities are developed.

Plutonium Facility–Radiological Control: Last Thursday during a hot job to replace a valve in a contaminated system, multiple continuous air monitors alarmed in a laboratory room. The workers were in respiratory protection and exited the area while covering the equipment to mitigate potential contamination spread. One worker's personal protective equipment was contaminated, but there was no skin contamination or evidence of an uptake. The room remains under restricted access until recovery is completed.

Flanged Tritium Waste Containers: Last Thursday, Triad issued their corrective action plan for the findings and other issues identified by the federal readiness assessment for venting and handling activities at Area G (see 11/13/2020 report). Triad also completed a causal analysis to evaluate the findings from the readiness assessment.